



SEQUENCE LISTING

1310 CREEMERS, Jantina
 ANGENENT, Gerrit
 KATER, Martin

<120> Process to collect metabolites from modified nectar by
 insects

<130> U-13212-4

<140> 09/743885

<141> 2001-01-16

<160> 29

<170> PatentIn Ver. 2.1

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<211> 265

<212> PRT

<213> Petunia x hybrida

<220>

<223> strain: W115

<220>

<223> tissue type: nectar gland

<220>

<223> NEC1 amino acid sequence

<400> 1

Met Ala Gln Leu Arg Ala Asp Asp Leu Ser Phe Ile Phe Gly Leu Leu
 1 5 10 15

Gly Asn Ile Val Ser Phe Met Val Phe Leu Ala Pro Val Pro Thr Phe
 20 25 30

Tyr Lys Ile Tyr Lys Arg Lys Ser Ser Glu Gly Tyr Gln Ala Ile Pro
 35 40 45

Tyr Met Val Ala Leu Phe Ser Ala Gly Leu Leu Leu Tyr Tyr Ala Tyr
 50 55 60

Leu Arg Lys Asn Ala Tyr Leu Ile Val Ser Ile Asn Gly Phe Gly Cys
 65 70 75 80

Ala Ile Glu Leu Thr Tyr Ile Ser Leu Phe Leu Phe Tyr Ala Pro Arg
 85 90 95

Lys Ser Lys Ile Phe Thr Gly Trp Leu Met Leu Leu Glu Leu Gly Ala
 100 105 110

Leu Gly Met Val Met Pro Ile Thr Tyr Leu Leu Ala Glu Gly Ser His
 115 120 125

Arg Val Met Ile Val Gly Trp Ile Cys Ala Ala Ile Asn Val Ala Val
 130 135 140
 Phe Ala Ala Pro Leu Ser Ile Met Arg Gln Val Ile Lys Thr Lys Ser
 145 150 155 160
 Val Glu Phe Met Pro Phe Thr Leu Ser Leu Phe Leu Thr Leu Cys Ala
 165 170 175
 Thr Met Trp Phe Phe Tyr Gly Phe Phe Lys Lys Asp Phe Tyr Ile Ala
 180 185 190
 Phe Pro Asn Ile Leu Gly Phe Leu Phe Gly Ile Val Gln Met Leu Leu
 195 200 205
 Tyr Phe Val Tyr Lys Asp Ser Lys Arg Ile Asp Asp Glu Lys Ser Asp
 210 215 220
 Pro Val Arg Glu Ala Thr Lys Ser Lys Glu Gly Val Glu Ile Ile Ile
 225 230 235 240
 Asn Ile Glu Asp Asp Asn Ser Asp Asn Ala Leu Gln Ser Met Glu Lys
 245 250 255
 Asp Phe Ser Arg Leu Arg Thr Ser Lys
 260 265

<210> 2
 <211> 221
 <212> PRT
 <213> Petunia x hybrida

<220>
 <223> strain: W115

<220>
 <223> tissue type: nectar gland, secretory cell

<220>
 <223> FBP15 amino acid sequence

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 Arg Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
 20 25 30
 Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Val Phe
 35 40 45
 Ser Ser Arg Gly Arg Leu Tyr Glu Tyr Ala Asn Asn Ser Val Lys Ala
 50 55 60

Thr Ile Asp Arg Tyr Lys Lys Ala Ser Ser Asp Ser Ser Asn Thr Gly
 65 70 75 80
 Ser Thr Ser Glu Ala Asn Thr Gln Phe Tyr Gln Gln Glu Ala Ala Lys
 85 90 95
 Leu Arg Val Gln Ile Gly Asn Leu Gln Asn Ser Asn Arg Asn Met Leu
 100 105 110
 Gly Glu Ser Leu Ser Ser Leu Thr Ala Lys Asp Leu Lys Gly Leu Glu
 115 120 125
 Thr Lys Leu Glu Lys Gly Ile Ser Arg Ile Arg Ser Lys Lys Asn Glu
 130 135 140
 Leu Leu Phe Ala Glu Ile Glu Tyr Met Arg Lys Arg Glu Ile Asp Leu
 145 150 155 160
 His Asn Asn Asn Gln Met Leu Arg Ala Lys Ile Ala Glu Ser Glu Arg
 165 170 175
 Asn Val Asn Met Met Gly Gly Glu Phe Glu Leu Met Gln Ser His Pro
 180 185 190
 Tyr Asp Pro Arg Asp Phe Phe Gln Val Asn Gly Leu Gln His Asn His
 195 200 205
 Gln Tyr Pro Arg Gln Asp Asn Met Ala Leu Gln Leu Val
 210 215 220

<210> 3
 <211> 18
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 <213> Calluna vulgaris

<220>
 <223> tissue type: flower

<220>
 <223> Calluna vulgaris signal peptide

<400> 3
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 1 5 10 15

His Ala

<210> 4
 <211> 1205
 <212> DNA
 <213> Petunia x hybrida

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<223> tissue type: nectar gland

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<223> NEC1

<400> 4

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cttcttggtg atattgtatc attcatgggc ttccctagcac ccgtgccaac attttacaaa 180
atatataaaa ggaaatcatc agaaggatat caagcaatac catatatggg agcactgttc 240
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tgtgccacta tgtggttttt ctatgggttt ttcaagaagg acttttacat tgcgtttcca 660
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gagaaggatt tttccagact gcggacatca aaataagcaa gaagatgatc aaaaaatgac 900
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<210> 5

<211> 1157

<212> DNA

<213> Petunia x hybrida

<220>

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<220>

<223> tissue type: nectar gland

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<223> cDNA library of nectaries from Petunia hybrida flowers

<220>

<223> FBP15

<400> 5

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aataaagggg atgttccaga atcaagaaga gaagatgtca gactcgctc agaggaagat 180
gggaagagga aagattgaga ttaagaggat tgaaaataca acaaatcgtc aagtcacttt 240

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ctgtaagaga agaaatgggt tgcttaaaaa agcttatgaa ctttctgttc tttgtgatgc 300
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tgtgaaggca acaattgata gatataagaa agcatcctca gattcctcca acactggatc 420
tacttctgaa gctaactcag agttttatca acaagaagct gccaaactcc gagttcagat 480
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caacaacaat cagatgcttc gggcaaagat agctgagagt gaaagaaatg tgaacatgat 720
gggaggagaa tttgagctga tgcaatctca tccgtacgat ccaagagact tcttccaagt 780
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caaagactta atttaacata taaatataat tgtgtaatgc tgttgatttg tatggtatgt 1080
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<210> 6
<211> 54
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<213> Calluna vulgaris

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<210> 7
<211> 2141
<212> DNA
<213> Petunia x hybrida

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<220>
<223> strain: W115

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<220>
<223> NEC1 promoter

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tgtgtcgagc gagaacatga aagtaaaccg aaagagggtg ttgagcggaa tgtagaacaa 360
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tagtattacg tagtttcttg ttgtttttgt agggctcggg acttttcggaa ggtgaggtaa 720
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tattattatt gctgtatttg tttgtcattt gaatttggca ccgcagattt ttgtatgcaa 1920
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<210> 8
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 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: primer prat
 122

<400> 8
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<210> 9
 <211> 23
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: primer prat
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<400> 9
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<210> 10
 <211> 29
 <212> DNA
 <213> Artificial Sequence

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<223> Description of Artificial Sequence: primer prat
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<210> 11

<211> 24

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: primer prat
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<210> 12

<211> 24

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: primer prat
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<210> 13

<211> 35

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: primer prat
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<210> 14

<211> 32

<212> PRT

<213> Calluna vulgaris

<220>

<223> CVH 50 N-terminal sequence

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<210> 15

<211> 40

<212> PRT

<213> Calluna vulgaris

<220>

<223> CVH 29 N-terminal sequence

<400> 15

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 1 5 10 15

Ala Gly Tyr Ser Cys Lys Glu Pro Ala Lys Val Thr Val Asp Asp Phe
 20 25 30

Val Phe His Gly Leu Gly Thr Ala
 35 40

<210> 16

<211> 20

<212> DNA

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<210> 17

<211> 20

<212> DNA

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<400> 17

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<210> 18
<211> 23
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<210> 19
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<223> Description of Artificial Sequence: primer prat
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22

<210> 20
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<220>

<223> Description of Artificial Sequence: primer prat
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28

<210> 21
<211> 27
<212> DNA
<213> Artificial Sequence

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<223> Description of Artificial Sequence: primer prat
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<210> 22
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<223> Description of Artificial Sequence: primer prat
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<211> 73

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer prat
246

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<210> 24

<211> 35

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer prat
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<210> 25

<211> 33

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer prat
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<400> 25

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<210> 26

<211> 29

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: primer prat

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29

<210> 27
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<220>
<223> Description of Artificial Sequence: primer prat
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<210> 28
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<220>
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<210> 29
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<220>
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33